



## **AIRPORTS AUTHORITY OF INDIA**

### **FIRE ORDER – 07** **[Year of Revision: 2010]**



## **BASIC RADIOTELEPHONY PROCEDURE** **&** **PHRASEOLOGY**

## AMENDEMENTS

From time to time amendments will be issued to this FIRE ORDER No.7.

To maintain a correct and up to date copy of the Fire Order it is important that instructions given in amendment notices are carried out.

Amendment No.	Date Amended	By whom amended
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## 1. FOREWORD

The efficiency of a rescue and fire fighting service is significantly dependent on the reliability and effectiveness of its communication and alarm system. ICAO recommends that discrete communication system should be provided linking a fire station with the control tower, any other fire station on the aerodrome and the rescue and fire fighting vehicle.

Radiotelephony (RTF) provides the means by which pilots and ground personnel communicate with each other, use of non-standard RTF procedure and phraseology can cause misunderstanding. Incidents and accidents have occurred in which a contributing factor has been the misunderstanding caused by the use of poor phraseology.

Correct phraseology and procedure a high standard of aeronautical radiotelephony which will contribute to the safety of operations.

## 2. TRANSMITTING TECHNIQUE

2.1 The following transmitting techniques will assist in ensuring that transmitted speech is clear and satisfactorily received:

- a. Before transmitting, listen out on the frequency to be used to ensure that there will be no interference with a transmission from another station.
- b. Be familiar with good microphone operating techniques;
- c. Use a normal conversational tone, and speak clearly and distinctly;
- d. Maintain an even rate of speech not exceeding 100 words per minute. When it is known that elements of the message will be written down by the recipient, speak at a slightly slower rate;
- e. Maintain the speaking volume at a constant level;
- f. A slight pause before and after numbers will assist in making them easier to understand;
- g. Avoid using hesitation sounds such as “er”;
- h. Be familiar with the microphone operating techniques.
- i. Suspend speech temporally if it becomes necessary to turn the head away from the microphone;
- j. Depress the transmit switch fully before speaking and do not release it until the message is completed. This will ensure that the entire message is transmitted;
- k. The transmission of long messages should be interrupted momentarily from time to time to permit the transmitting operator to confirm that the frequency in use is clear and, if necessary, to permit the receiving operator to request repetition of parts not received.
- l. Microphone position near the mouth should be changed and correct distances should be maintained all the time. Change of position of mouth can result in over modulation and consequent distortion if it brought too close to the mouth

- 3.2 An irritating and potentially dangerous situation in radiotelephony is a “stuck” microphone button. Operators should always ensure that the button is released after a transmission and the microphone placed in an appropriate place ensuring that it will not inadvertently be switched on.

### 3. STANDARD WORDS AND PHRASES

The following words and phrases shall be used in radiotelephony communications as appropriate and shall have the meaning given below.

“Prowords” are used to keep transmission clear and brief.

Proword / Phrase	Meaning
<b>ACKNOWLEDGE</b>	Instruction to a station to acknowledge that it has heard a message
<b>AFFIRM</b>	<i>Yes or Correct or I agree</i>
<b>APPROVED</b>	Permission for proposed action granted
<b>BREAK</b>	I hereby indicate the separation between portions of the message
<b>BREAK BREAK</b>	I hereby indicate the separation between messages transmitted to different aircraft in a very busy environment.
<b>CANCEL</b>	<i>Ignore my previous message. Cancel a message or part of a message or transmission</i>
<b>CHECK</b>	<i>Examine a system or procedure</i>
<b>CLEARED</b>	Authorized to proceed under the conditions specified
<b>CONFIRM</b>	<i>Confirm message or portion indicated</i>
<b>CORRECT</b>	You are correct or what you have transmitted is correct
<b>CORRECTION</b>	<i>an error has been made in transmission. The correct version follows.</i>
<b>DISREGARD</b>	<i>Ignore the last transmission or specified part</i>
<b>HOW DO YOU READ</b>	<i>What is the readability of my transmission?</i>
<b>E.T.A.</b>	<i>Estimated time of arrival</i>
<b>E.T.D.</b>	<i>Expected time of departure</i>
<b>GRID REF</b>	<i>Used before every group of grid references</i>
<b>I SAY AGAIN</b>	<i>I repeat for clarity or emphasis</i>
<b>I SPELL</b>	<i>Used when spelling out a word</i>
<b>LONG MESSAGE</b>	<i>I am about to relay a message, are you ready to receive it</i>
<b>MAINTAIN</b>	<i>continue in accordance with the conditions specified or in its literal sense</i>
<b>NEGATIVE</b>	<i>No or That is incorrect or Permission not granted</i>
<b>OUT</b>	<i>This exchange of transmission is ended and no response is expected</i>
<b>OVER</b>	<i>This is the end of my transmission to you and a reply is expected.</i>
<b>READ BACK</b>	Repeat this entire transmission back to me exactly as you received it.
<b>RECLEARED</b>	A change has been made to your last clearance and this new clearance supersedes

	your previous clearance or part thereof
<b>ROGER</b>	<i>I have received your last transmission satisfactorily.</i>
<b>SAY AGAIN</b>	<i>Say again all or portion indicated of your last transmission</i>
<b>STAND BY</b>	<i>I am not ready to receive your transmission or I will call again shortly</i>
<b>SEND</b>	I am ready to receive your message.
<b>URGENT MESSAGE</b>	<i>I have a message requiring priority but I am not in any personal danger.</i>
<b>UNABLE</b>	I cannot comply with your request, instruction or clearance
<b>WILCO</b>	<i>Your last message (or message indicated) is understood and will be complied with.</i>
<b>WORDS TWICE</b>	<i>Communication is difficult. Transmit (or I am transmitting) each phrase twice. (May be used as an order, request or for information purposes).</i>
<b>WRONG</b>	What you have said is wrong. Correct version is .....
<b>VEHICLE MOVEMENT PROWORDS</b>	
<b>MOBILE</b>	<i>On way to incident</i>
<b>ARRIVED</b>	<i>Arrived at incident</i>
<b>IN SERVICE</b>	<i>Able to respond to another incident if required</i>
<b>RETURNING</b>	<i>Returning from an incident</i>
<b>STATIONED</b>	<i>Returned to station</i>
<b>OUT IN AREA</b>	<i>Vehicle on radio contact in own brigade area</i>

Note:- The phrase “GO AHEAD” has been deleted, in its place the use of the calling aeronautical station’s call sign followed by the answering aeronautical station’s call sign shall be considered the invitation to proceed with transmission by the station calling.

#### 4. TRANSMISSION OF LETTERS

To expedite communications, the use of phonetic spelling should be dispensed with if there is no risk of this affecting correct reception and intelligibility of the message.

With the exception of the telephony designator and the type of aircraft, each letter in the aircraft call sign shall be spoken separately using the phonetic spelling.

The words in the table below shall be used when using the phonetic spelling.

Note:- Syllables to be emphasized are underlined

Letter	Word	Spoken as
A	Alpha	<u>AL</u> FAH
B	Bravo	<u>BRAH</u> -VOH
C	Charlie	<u>CHAR</u> LEE
D	Delta	<u>DELL</u> TAH
E	Echo	<u>ECK</u> OH
F	Foxtrot	<u>FOKS</u> TROT
G	Golf	GOLF
H	Hotel	HO <u>TELL</u>
I	India	<u>IN</u> DEE AH
J	Juliet	<u>JUE</u> LEE <u>ETT</u>

K	Kilo	<u>KEY</u> LOH
L	Lima	<u>LEE</u> MAH
M	Mike	MIKE
N	November	NO <u>VEM</u> BER
O	Oscar	<u>OSS</u> CAH
P	Papa	PAH <u>PAH</u>
Q	Quebec	KEH <u>BECK</u>
R	Romeo	ROW ME OH
S	Sierra	SEE AIR RAH
T	Tango	<u>TANG</u> GO
U	Uniform	<u>YOU</u> NEE FORM
V	Victor	<u>VIK</u> TAH
W	Whiskey	<u>WISS</u> KEY
X	X-ray	<u>ECKS</u> RAY
Y	Yankee	<u>YANK</u> KEY
Z	Zulu	<u>ZOO</u> LOO

## 5. TRANSMISSION OF NUMBERS

5.1 When the language used for communication is English, numbers shall be transmitted using the following pronunciation.

Note:- The syllables printed in capital letters are to be stressed; for example, the two syllables in ZE-RO are given equal emphasis, whereas the first syllable of FOW-er is given primary emphasis

Numeral or numeral element	Pronunciation
0	ZE -RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Hundred	HUN-dred
Thousand	TOU-SAND

5.2 All numbers except as specified in 5.3; shall be transmitted by pronouncing each digit separately.

Aircraft call signs	Transmitted as
AIC 238	Air India two three eight
VT- JSL	Victor Tango Juliet Sierra Lima
Flight levels	Transmitted as
FL 180	Flight level one eight zero

FL 200	Flight level two zero zero
<b>Headings</b>	<b>Transmitted as</b>
100 degrees	heading one zero zero
080 degrees	heading zero eight zero
<b>Wind direction and speed</b>	<b>Transmitted as</b>
200 degrees 70 knots	wind two zero zero degrees seven zero knots
<b>Transponder codes</b>	<b>Transmitted as</b>
2 400	squawk two four zero zero
4 203	squawk four two zero three
<b>Runway</b>	<b>Transmitted as</b>
27	runway two seven
30	runways three zero

5.3 All numbers used in the transmission of altitude, cloud height, visibility and runway visual range (RVR) information, which contain whole hundreds and whole thousands, shall be transmitted by the word HUNDRED or THOUSAND as appropriate.

<b>Altitude</b>	<b>Transmitted as</b>
800	eight hundred
3 400	three thousand four hundred
12 000	one two thousand
<b>Cloud height</b>	<b>Transmitted as</b>
2 200	two thousand two hundred
4 300	four thousand three hundred
<b>Visibility</b>	<b>Transmitted as</b>
1000	visibility one thousand
700	visibility seven hundred
<b>Runway visual range</b>	<b>Transmitted as</b>
600	RVR six hundred
1 700	RVR one thousand seven hundred
<b>Channel</b>	<b>Transmitted as</b>
118.000	ONE ONE EIGHT DECIMAL ZERO
118.005	ONE ONE EIGHT DECIMAL ZERO ZERO FIVE
118.025	ONE ONE EIGHT DECIMAL ZERO TWO FIVE
118.100	ONE ONE EIGHT DECIMAL ONE

5.4 While runway inspection when it is felt that the information may prove useful to tower / aircraft or whenever a controller deems it necessary, information that water is on a runway shall be passed to aircraft using the terms :DAMP:, “WET”, “WATER”, “PATCHES” or “FLOODED” according to the amount of water present.



## 6. TRANSMISSION OF TIME

When transmitting time, only the minutes of the hour should normally be required. Each digit should be pronounced separately. However, the hour should be included when any possibility of confusion is likely to result. The following example illustrates;

Time	Transmitted as
0920 (9:20 A.M)	ZE-RO NIN- er TOO ZE-RO
1643 (4:43 P.M)	WUN SIX FOW- er TREE

## 7. ESTABLISHMENT AND CONTINUATION OF COMMUNICATION

If there is doubt that a message has been correctly received, a repetition of the message shall be requested either in full or in part.

Phrase	Meaning
SAY AGAIN	Repeat entire message
SAY AGAIN ... (item)	Repeat specific item
SAY AGAIN ALL BEFORE (the first word satisfactorily received )	Repeat part of message
SAY AGAIN ALL AFTER.... (the last word satisfactorily received)	Repeat part of message

Example:

From	To	Message
TWR	F/S	Full emergency, Indian Airlines B737 Heavy smoke in cargo hold, persons on board 69, endurance 0130 landing rwy ... within 6 minutes
F/S	TWR	Say again POB and endurance only
TWR	F/S	POB 69, endurance 0130
F/S	TWR	Rogar
SAY AGAIN ALL BETWEEN ...AND...		Repeat part of message.

When an error is made in transmission the word “CORRECTION” shall be spoken, the last correct group or phrase repeated and then the correct version transmitted.

If a correction can best be made by repeating the entire message; the operator shall use the phrase “CORRECTION I SAY AGAIN” before transmitting the message a second time.

## 8. INSTRUCTIONS

### 8a. Movement Instructions

Drivers on first call should identify themselves by their vehicle call sign, state their position and intended destination (and possibly required route)

Example:

Tower - CFT 1 - present position fire station, request proceed to taxiway HOTEL to attend a fire call.

CFT 1 – Tower- Proceed to taxiway Hotel via Kilo and Alpha

The controller, if too busy to give instructions, will reply “**standby**” or “**wait**”. This means that the driver should wait until the controller calls back. The driver shall not proceed until permission is given.

When there is conflicting traffic the controller may reply “**HOLD POSITION**”. This means that the driver shall not proceed until the controller calls back with permission. All other replies should contain clearly defined point to which the driver may proceed; this may or not be the intended destination. If it is not the intended destination drivers must stop at this point and request permission before proceeding further.

Example,

Tower—CFT	Request proceed to hanger 3
CFT – Tower	Proceed via Kilo Alpha cross Runway 09 hold short of Runway 14.
Tower – CFT	Via kilo alpha cross 09 hold short of Runway 14.
CFT – Tower	Cross Runway 14 continue to hangar 3
Tower – CFT	crossing
Tower – CFT	Runway 14 vacated.
CFT – Tower	ROGER.

Permission to proceed on the apron may include such instructions regarding other traffic as are thought necessary to safe operations.

## **8b. Final Approach and Landing**

An aircraft reports “**FINAL**” when it turns onto final within 7 km (4 nm) from touchdown. If and when the turn onto final is made at a greater distance, a ‘**LONG FINAL**’ report is made. If the aircraft is making a straight in approach a long final report is made at about 15 km (8 nm) from touchdown.

## **8c. Aerodrome Control Vehicles**

The expeditious movement of vehicles plays an essential supporting role in the operation of an aerodrome. Wherever possible the areas in which vehicles and aircraft operate are segregated. However, there are many occasions when vehicles need to move on the manoeuvring area for maintenance purposes or it direct support of aircraft operations.

Procedures governing the movement of vehicles vary widely from aerodrome to aerodrome, but certain factors to be taken into account when driving on an aerodrome are common to all:

- a. In general aircraft are by no means as manoeuvrable as ground vehicles.
- b. The visibility from an aircraft cockpit for ground movement purposes is often restricted compared to that from a ground vehicle.
- c. Therefore, when vehicles are operating in close proximity to aircraft, drivers should be extremely vigilant and comply in full with local procedures and ATC instructions.

- d. Correct RTF operating technique must be observed by all users. It is important that a continuous listening watch is maintained by all vehicles on the movement area, not only in case of further instructions from the control tower, but also so that drivers can be aware of the movements and intended movements of other traffic, thereby reducing the risk of confliction.

#### **8d. Crossing Runway**

Drivers should note carefully the position to which they may proceed, particularly where the intended route involves crossing a runway. Some aerodromes may have procedures that will allow vehicles to proceed to a holding point on the movement area and then request runway – crossing instructions. Under no circumstances shall a driver cross a runway unless positive permission has been given and acknowledged. A runway – vacated report shall not be made until the vehicle is clear of the designated runway area.

Example,

Tower	CFT	Request proceed to maintenance base.
CFT	Tower	Proceed via India and bravo hold short of Runway 27.
Tower	CFT	Via India and bravo hold short of runway 27.
Tower	CFT	Holding short runway 27.
CFT	Tower	Cross-runway 27 to taxiway mike report vacated runway.
Tower	CFT	Crossing runway 27.
Tower	CFT	Runway vacated.
Tower	CFT	Continue on mike to maintenance.

If a vehicle is operating on the runway it shall be instructed to leave the runway when it is expected that an aircraft will be landing or taking off

CFT	Tower	Vacate runway 27, take next right, report vacated.
Tower	CFT	WILCO
Tower	CFT	Runway 27 vacated
CFT	Tower	ROGER

When vehicle is moving on the movement area it may be necessary to inform the vehicle of a potentially dangerous situation and to instruct it to stop.

CFT	Tower	Stop immediately
Tower	CFT	Stopping

### 8e. Traffic Information

To pass traffic information from ATC to Fire Watch Tower/ Fire Station:

Example: Traffic Indian Airlines Airbus 320 (three two – zero) long final Runway 28

To acknowledge from fire station/fire watch tower:

Example: Traffic insight or looking out

## 9. COMMUNICATION REQUIREMENTS AND VISUAL SIGNALS

9.1 At aerodromes all vehicles employed on the manoeuvring area shall be capable of maintaining two way radio communications with the aerodrome control tower, except when the vehicle is only occasionally used on the manoeuvring area and is:

- i. Accompanied by a vehicle with the required communications capability or
- ii. Employed in accordance with a pre- arranged plan established with the aerodrome control tower.

9.2 When communications by a system of visual signals is deemed to be adequate or in the case of radio communication failure, the signals given hereunder shall have the meaning indicated therein:

Light signal from aerodrome control	Meaning
Green flashes	Permission to cross landing area or to move onto taxiway
Steady red	Stop
Red flashes	Move off the landing area or taxiway and watch out for aircraft
White flashes	Vacate manoeuvring area in accordance with local instructions.

9.3 In emergency conditions or if the signals in previous para are not observe, the signal given hereunder shall be used for runways or taxiways equipped with a lighting system and shall have the meaning indicated therein.

Light signal	Meaning
Flashing runway or taxiway lights	Vacate the runway and observe the tower for light signal.

## 10. TEST PROCEDURE

On the air radio tests when necessary should be short (not more than 10 seconds) do not interfere with other communications.

- i. Test transmission should take the following form:
  - a) The identification of the aeronautical station being called
  - b) The aircraft identification
  - c) The words “RADIO CHECK ” and
  - d) The frequency being used
- ii. Replies to test transmission should be as follows
  - a) The identification of the station calling
  - b) The identification of the station replying
  - c) Information regarding the readability of the transmission.
- iii. The readability of transmission should be classified in accordance with the following readability scale.

<b>REDABILITY PROWORDS</b>	
<b><i>Readability</i></b>	<b><i>Strength</i></b>
<i>Unreadable</i>	<i>1</i>
<i>Reading Intermittently</i>	<i>2</i>
<i>Readable with difficulty</i>	<i>3</i>
<i>Readable</i>	<i>4</i>
<i>Perfectly Readable</i>	<i>5</i>

References: The following ICAO documents have been referred for preparation of Fire Order No. – 7.

- a) DOC 9432 – AM/925 – Manual of Radiotelephony
- b) DOC 4444 – Air Traffic Management
- c) DOC 9137 – Airport Service Manual Part – 1.

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